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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/821,974

04/12/2004

Randall A. Greene

2057/143

3086

23338

7590

11/01/2005

DENNISON, SCHULTZ, DOUGHERTY & MACDONALD
1727 KING STREET
SUITE 105
ALEXANDRIA, VA 22314

EXAMINER

BLOUNT, ERIC

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/821,974

Applicant(s)

GREENE, RANDALL A.

Examiner

Eric M. Blount

Art Unit

2636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 04122005, 05052005.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley [U.S. Patent No. 3,775,745] in view of Augustin et al [WO 03/081554 A1].

Regarding **claim 1**, Kelley discloses a helicopter having a turbine engine mounted therein (column 1, lines 5-8) and a "hot-start" avoidance system. The system comprises a warning device (column 1, lines 32-42), a data storage means and means for inputting a safe temperature profile for startup of a helicopter turbine engine, means for measuring the actual temperature profile during a startup of the helicopter turbine engine, and a means for actuating the warning device when the actual engine temperature during an engine startup falls outside of the safe temperature profile to thereby warn a pilot to abort the startup of a helicopter turbine engine (column 3, lines 16-60). Kelley does not explicitly disclose a data storage means for inputting a temperature profile. However, it would have been obvious to one of ordinary skill in the art that safe temperature values would have to be stored so that the logic circuitry could determine if current conditions warranted an alarm. This reasonably appears to meet the limitation. Kelley does not disclose a collective and a tactile warning device operatively connected to the collective.

In an analogous art, Augustin discloses a method and apparatus for tactile cueing of aircraft controls. The invention warns pilots of approaching or exceeding limits on certain aircraft performance parameters (see abstract). Augustin discloses a collective (21) and a tactile warning device (29) operatively connected to the collective. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the teachings of Kelley to include tactile warning device taught by Augustin because a combination would result in a system that was effective in warning a pilot of an alarm condition without diverting the pilot's attention from flying. There would be no need for the pilot to audibly or visibly observe an alarm output, instead, the pilot could operate the helicopter as usual and get a vibratory alert of an alarm condition from the helicopter controls.

Regarding **claims 2-4**, Kelley discloses a helicopter having a turbine engine mounted therein (column 1, lines 5-8) and an over stress (over-temperature) avoidance system. The system comprises a warning device (column 1, lines 32-42), a data storage means and means for inputting a safe temperature profile for startup of a helicopter turbine engine, means for measuring the actual turbine output temperature (Figure 2 and column 3, lines 21-33) during a startup of the helicopter turbine engine, and a means for actuating the warning device when the actual engine temperature during an engine startup falls outside of the safe temperature profile to thereby warn a pilot to abort the startup of a helicopter turbine engine (column 3, lines 16-60). Kelley does not explicitly disclose a data storage means for inputting a temperature profile. However, it would have been obvious to one of ordinary skill in the art that safe

temperature values would have to be stored so that the logic circuitry could determine if current conditions warranted an alarm. This reasonably appears to meet the limitation. Kelley also discloses a means for enabling the warning device for a response to a dangerous condition during flight operation (column 3, lines 25-41 and column 4, lines 6-15). Kelley does not disclose a collective and a tactile warning device operatively connected to the collective.

In an analogous art, Augustin discloses a method and apparatus for tactile cueing of aircraft controls. The invention warns pilots of approaching or exceeding limits on certain aircraft performance parameters (see abstract). Augustin discloses a collective (21) and a tactile warning device (29) operatively connected to the collective. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the teachings of Kelley to include tactile warning device taught by Augustin because a combination of the inventions would result in a system that was effective in warning a pilot of an alarm condition without diverting the pilot's attention from flying. There would be no need for the pilot to audibly or visibly observe an alarm output, instead, the pilot could operate the helicopter as usual and get a vibratory alert of an alarm condition from the helicopter controls.

As for **claims 5-8**, Kelley discloses that a safe operating temperature profile and other safe operating parameters during flight of the helicopter may be monitored (see column 1, line 33 – column 2, line 10). Augustin also discloses that several safe operating parameters may be monitored during the operation of the helicopter (see abstract). The combined teachings of the two inventors reasonably appear to meet the

limitations of the claims. Please see the claims above for further explanation of the rejection.

3. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley in view of Augustin et al as applied to claims 1-8 above, and further in view of Greene [U.S. Patent No. 5,986,582].

Regarding **claims 9 and 10**, neither Kelley nor Augustin disclose activating a warning device at a first preselected magnitude when an actual parameter for a dangerous operation is approached and increasing the magnitude of the warning when a dangerous condition exists. In an analogous art, Greene et al disclose a warning system for a helicopter wherein a tactile warning device is operated at a first preselected magnitude when an actual parameter for a dangerous operation is approached and increasing the magnitude of the tactile warning when a dangerous condition exists (Figure 3 and column 3, lines 37-51).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the inventions of Kelley and Augustin et al to include the warning method taught by Greene et al because the modification would result in an apparatus capable of providing a more effective means of warning a pilot of an alarm condition wherein a pilot could identify and respond to alarms based on the seriousness of the condition.

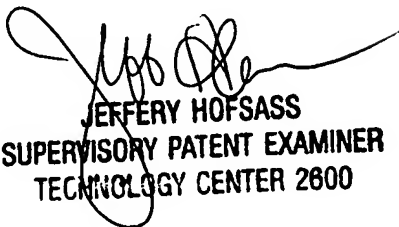
Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric M. Blount whose telephone number is (571) 272-2973. The examiner can normally be reached on 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric M. Blount
Examiner
Art Unit 2636


JEFFERY HOFSSASS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600